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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,627	09/15/2003	Shinichi Kawate	03500.017588	7929
5514	7590	06/30/2006	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			SANTIAGO, MARICELI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,627

Applicant(s)

KAWATE ET AL.

Examiner

Mariceli Santiago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-17,19-23 and 29-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 29-32 is/are allowed.
- 6) ☒ Claim(s) 1,4,11-13,19,21-23,35 and 36 is/are rejected.
- 7) ☒ Claim(s) 5-10,14-17,33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/17/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Amendment, filed on April 17, 2006, has been entered and acknowledged by the Examiner.

Cancellation of claims 2, 3, 18 and 24-28 has been entered.

Claims 1, 4-17, 19-23 and 29-36 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 11-13 and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawate et al. (US 20030006684).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Kawate discloses a method of producing an electron-emitting device having a carbon fiber, comprising applying a liquid including dispersed particles onto a substrate (Paragraph [0101]), and forming a carbon fiber by contacting the particles applied on the

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substrate with a carbon containing gas (Paragraph [0106]), wherein each of the particles contains Pd and at least one element selected from the group consisting of Fe, Co, Ni, Y, Rh, Pt, La, Ce, Pr, Nd, Gd, Tb, Dy, Ho, Er, and Lu (Paragraph [0050]).

Regarding claim 4, Kawate discloses a method wherein each of the particles contains the element by 5 atm% or more and 80 atm% or less (atomic percentage) with respect to Pd (Paragraph [0024]).

Regarding claims 11-13, Kawate discloses a method wherein an average particle size of the particles is 1 nm or more and 100 nm or less, is 1 nm or more and 50 nm or less, or is 1 nm or more and 20 nm or less (Paragraph [0061]).

Regarding claim 21, Kawate discloses a method wherein the carbon fiber is any one of a carbon nano tube, a graphite nano fiber, an amorphous carbon fiber, and a diamond fiber.

Regarding claim 22, Kawate discloses a method of producing an electron source having a plurality of electron-emitting devices, wherein the electron-emitting devices are produced by the method of producing an electron-emitting device.

Regarding claim 23, Kawate discloses a method of producing an image-forming apparatus comprising an electron source, and an image-forming member disposed facing the electron source, wherein the electron source is produced by the method of producing an electron source.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al. (US 5,973,444).

Regarding claim 19, Xu discloses a method of producing an electron-emitting device having a carbon fiber, comprising applying a liquid including dispersed particles containing a catalytic metal onto a substrate, and forming a carbon fiber by contacting the particles applied on the substrate with a carbon containing gas. Xu fails to disclose the limitation of the particles contained by a ratio of 1 g/L or less with respect to the liquid. At the time the invention was made, it would have been an obvious matter of design engineering to a person of ordinary skill in the art to provide the catalytic particles within a ration of 1 g/L or less with respect to the liquid since applicant's claimed particle/liquid ratio does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teaching applied. Moreover, Xu's claimed method performed the same function of growing nanotubes from dispersed catalytic particles within a liquid at an effective ratio to provide for the desired field emission requirements. Accordingly, it would have been an obvious matter of design engineering to modify the device of Xu to obtain the invention as specified in claim 19.

Regarding claim 35, Xu discloses a method of producing an electron source having a plurality of electron-emitting devices, wherein the electron-emitting devices are produced by the method of producing an electron-emitting device.

Regarding claim 36, Xu discloses a method of producing an image-forming apparatus comprising an electron source, and an image-forming member disposed facing the electron source, wherein the electron source is produced by the method of producing an electron source.

Allowable Subject Matter

Claims 20 and 29-32 are allowed over the prior art of record.

Claims 5-10, 14-17, 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 5 and 34, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 5 and 34, and specifically comprising the limitation of the liquid further contains a polymer.

Regarding claims 6-10 and 14, claims 6-10 and 14 are allowable for the reasons given in claim 5 because of their dependency status from claim 5.

Regarding claims 15-17, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 15-17, and specifically comprising the limitation of the particles contained by the claimed ratio with respect to the liquid.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, and specifically comprising the limitation of applying a liquid with including a polymer and a plurality of catalytic particles onto a substrate, and contacting the catalytic particles with a carbon containing gas.

Regarding claims 29-32, claims 29-32 are allowable for the reasons given in claim 20 because of their dependency status from claim 20.

Regarding claim 33, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 33, and specifically comprising the limitation of the particles contains Pd and at least one element selected from the group consisting of Fe,

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Co, Ni, Y, Rh, Pt, La, Ce, Pr, Nd, Gd, Tb, Dy, Ho, Er, and Lu by 5 atm% or more and 80 atm% or less (atomic percentage) with respect to Pd.

Response to Arguments

Applicant's arguments with respect to claims 1, 4, 11-13, 19, 21-23, 35 and 36 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mariceli Santiago
Primary Examiner
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